NON-PUBLIC?: N
ACCESSION #: 9504040083
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Indian Point Unit 3 PAGE: 1 OF 6

DOCKET NUMBER: 05000286

TITLE: Automatic Actuation of Emergency Diesel Generators
Following a Loss of Offsite Power Due to Improper Crane
Operation
EVENT DATE: 02/27/95 LER #: 95-004-00 REPORT DATE: 03/27/95

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: N POWER LEVEL: 000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Charlie Caputo, Operations
Technical Advisor TELEPHONE: (914) 681-8814

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

At 1345 hours on February 27, 1995, with the plant at cold shutdown, Indian Point 3 lost 138KV power. The loss of power occurred when a crane, operated by Consolidated Edison in the Indian Point 2 Owner Controlled Area, shorted the "C" phase of the 138KV electrical feeder 95331 to ground. No one was injured. Emergency power was provided by Emergency Diesel Generators (EDG) 31 and 33 until offsite power was restored at 1623 hours. One of the two EDG 31 ventilation exhaust fans was manually started when it failed to automatically start as designed due to thermostat setpoint drift. Compensatory action was required due to loss of the fire display in the control room and the plant page phone which were powered from the out of service EDG 32. Corrective action includes an assessment of the loss of reset for a group of annunciators, a testing - calibration procedure for thermostats, and an assessment of

lessons learned from the event. There was no effect on public health and safety.

END OF ABSTRACT

DESCRIPTION OF EVENT

On February 27, 1995, at 1345 hours, with the plant in the Cold Shutdown condition (reactor power at 3 counts per second, Reactor Coolant System (RCS) temperature at 101 degrees Fahrenheit, RCS pressure at atmospheric and pressurizer level at 23 percent), Indian Point 3 (IP3) lost all 138KV power. The loss of power occurred due to an arc from 138KV electrical feeder (FDR) 95331 to a crane, shorting the C phase to ground. The crane was being used by Indian Point 2 (IP2) contractor personnel to load boxes of materials onto a flatbed truck. The boxes were being moved from their storage location in the IP2 Steam Generator Storage Building, located near the 138KV electrical feeder lines to IP3, but in the IP2 Owner Controlled Area. The weather conditions were freezing rain, sleet and snow with air temperature approximately 23 degrees Fahrenheit. The work crew stopped work, lowered the boom, inspected the ground cable and boom cable for damage. A four-hour emergency notification in accordance with 10 CFR 50.72(b)(2)(ii) was made at 1655 hours due to actuation of the emergency diesel generators (DG) (EDG) following the loss of offsite power. The notification was supplemented at 2115 hours to add to the report an EDG Ventilation Exhaust Fan (FAN) did not start as required.

Consolidated Edison Construction took immediate corrective action by ordering the boom retracted, removing equipment, and stopping work pending further investigation of the incident. Consolidated Edison restored offsite power and at 1442 hours the Consolidated Edison District Operator (CEDO) reported the fault cleared and the 95331 feeder energized. IP3 Operations restored off-site power through the Station Auxiliary Transformer (XFMR) and at 1523 hours bus (BU) 6A was re-energized to permit re-energization of motor control center (MCC) 36B. operations re-energized the 480V buses from offsite power and placed EDGs 31 and 33 in automatic at 1557 hours. The breakers to MCC 312 and 313 were closed at 1623 hours.

The operating Residual Heat Removal (RHR) Pump (PU) 31 and spent fuel cooling were stripped off the 480V bus as designed. Operations restored RHR to service at 1348 and Spent Fuel Pool Cooling at 1600.

Following the loss of offsite power, emergency power was provided by 31 and 33 EDGs which loaded as designed and supplied power to their

respective 480V buses. The 32 EDG was tagged out for preventive maintenance. A Nuclear Plant Operator (NPO), dispatched immediately to monitor EDG operation, noted that 31 EDG Ventilation Exhaust Fan

(FAN) 314 was not operating (designed to start at 95 degrees F and stop at 85 degrees F). The redundant 31 EDG fan 315 was powered from the 32 EDG which was out of service. After contacting the Control Room (CR) for permission, the NPO adjusted the control thermostat (TH) setpoint indicator (i.e., lowered auto start temperature from 95 degrees F to about 85 degrees F) which started fan 314. The NPO then returned the setpoint to approximately the initial setting. Subsequent investigation by Instrumentation and Controls and Technical Services Department personnel determined the following:

o The fan 314 thermostat did not start the fan because of controller drift due to a missing sensitivity adjusting locking screw. Technical Services concluded that the thermostat would have performed its function if the NPO had not adjusted it. The thermostat actuated the fan at approximately 108 degrees F, about 13 degrees F higher than the setpoint, when tested in the as-found condition following power restoration. Technical Services concluded that the thermostat was close to the actuation point to which it had drifted when the NPO lowered the auto start temperature. Since the EDG cell could have been no more than 114 degrees F when the fan was manually initiated (the high temperature alarm in the CR whose setpoint is 115 degrees F had not actuated), the fan thermostat had margin to actuate prior to reaching the design basis limiting component temperature of 126 degrees F. Instrumentation and Controls installed a new locking screw on the controller for EDG Ventilation Exhaust Fan 314, adjusted the controller, and tested the fan satisfactorily.

o The drift in the control thermostat was not identified due to the lack of a periodic calibration procedure for the controller. A calibration procedure was under preparation because of a similar event in July 1994 (EDG 33 fan 318 failed to start when expected due to a missing locking screw) but had not yet been implemented. The interim corrective action was surveillance testing of EDG cell temperature during EDG monthly tests to show fan function.

o The sensitivity adjusting locking screw on the other five (5) EDG fan controllers and the three (3) controllers used for the EDG compartment temperature alarms were inspected. Seven (7) of eight (8) were found to be properly installed. The controller for EDG 31

Ventilation Exhaust Fan 315 was missing a screw which was found in the bottom of the controller case. Functional testing demonstrated the fan was initiated at 96 degrees F. The plant equipment data base was reviewed and no other controllers

with this model number were identified. An existing program makes sure that other controllers are considered for the periodic testing and calibration procedure.

Due to the unavailability of 32 EDG (out of service due to annual maintenance), MCC-36B was not energized. This caused the following:

o The 31 EDG fan 315 did not start because it is powered from the 32 EDG. The 314 and 315 fans for the 31 EDG cell are each 100 percent capacity.

o The Fire Display Control Panel (FDCP) in the CR was unavailable due to loss of power. However, a contingency fire watch was established. operations confirmed the fire watch at 1433 which is within the time required for the watches to be in place. Fire fighting capability was available since the Electric and Diesel Driven Fire Pumps and the CO sub 2 Fire Suppression System were operable.

o The Plant Party Page/Phone System was unavailable due to loss of power. The Plant Radio Communication System was available to direct onsite activities. The Emergency Notification System (ENS) and commercial telephone lines were available throughout the event; however, the Radiological Emergency Communication System (RECS) line was not. The commercial telephone lines to the New York State and County warning points were verified available as a backup to the RECS line. Upon restoration of offsite power, MCC-36B was re-energized and the RECS line was verified operable again at 1604 hours.

During the loss of offsite power, the Flasher Relay (RLY) associated with a specific group of control room annunciators (ANN) on Panels SJF, SHF, SGF, and SFF continued to flash and could not be reset. This failure prevented alarms from reflashing in a normal fashion. Approximately 25 minutes into the event, and after a number of attempts, the operators were able to reset the alarm panel without any corrective action.

CAUSE OF EVENT

The cause of the loss of offsite power was the crane operator not maintaining a sufficient clearance between the crane and the high voltage wire. IP2 personnel are investigating why sufficient

clearance was not maintained. A copy of their report and final corrective action plans will be sent to NYPA.

CORRECTIVE ACTIONS

The following corrective actions have been or will be taken to prevent recurrence of this event:

o Consolidated Edison prepared a Temporary Procedure Change (TPC) to SAO-105 "Work Permits" to require Operation's authorization for crane work inside Consolidated Edison Owner Controlled Area for a period of ninety days pending further evaluation and long-term corrective action.

o Indian Point 3 Operations will review the Indian Point 2 event investigation report, identify the lessons learned that should be applied to Indian Point 3 and implement those lessons learned. Special emphasis will be placed on controls in the high voltage switchyard. The review will be complete 30 days after the report is received.

o Instrumentation and Controls will investigate the failure to reset of Control Room Annunciator Panels SJF, SHF, SGF, and SFF for corrective actions. The investigation is scheduled for completion by August 15, 1995.

o Instrumentation and Controls will issue a periodic testing and calibration procedure for the nine (9) controllers for the EDG ventilation system. The procedure will include a step to mark the position of locking screws after calibration. The procedure will be completed April 1, 1995.

ANALYSIS OF THE EVENT

This event is reportable pursuant to 10 CFR 50.73(a)(2)(iv) because the loss of offsite power on February 27, 1995, caused automatic actuation of Engineered Safety Feature equipment, EDG's 31 and 33.

A review of Licensing Event Reports over the past 3 years did not identify any reportable events involving the loss of offsite power or

unsafe crane operation.

SAFETY SIGNIFICANCE

This event did not affect the health and safety of the public.

Personnel safety was at issue for the crane operator performing the lift and nearby personnel. However, no injuries occurred.

The EDGs started and performed as designed to cope with the loss of offsite power. The failure of fan 314 for EDG 31 to automatically start did not affect EDG operability. A technical review concluded that the thermostat would have started the fan prior to reaching the design basis limiting component temperature of 126 degrees F. This would allow the fan to perform its design function. The automatic function was not initiated because an NPO investigated the EDG cubicle and took corrective action to start the fan.

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511

914 736-8001

L. M. Hill
NewYorkPower Resident Manager
Authority

March 27, 1995
IPN-95-038

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
License No. DPR-64
Licensee Event Report # 95-004-00
"Automatic Actuation of Emergency Diesel Generators Following a Loss of Offsite Power Due to Improper Crane Operation"

Dear Sir:

The attached Licensee Event Report (LER) 95-004-00 is hereby submitted as required by 10CFR50.73. This event is of the type defined in 10CFR50.73(a)(2)(iv). Also attached are commitments made by the Authority in this LER.

Very truly yours,

L. M. Hill
Resident Manager
Indian Point 3 Nuclear Power Plant

Attachment

LMH/vjm

cc: See next page

Docket No. 50-286
IPN-95-038
Page 2 of 2

cc: Mr. Thomas T. Martin
Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant

INPO Records Center
700 Galleria Parkway
Atlanta, Georgia 30339-5957

Docket No. 50-286
IPN-95-038
Attachment I

Attachment I
List of Commitments

Number	Commitment	Due
IPN-95-038-01	Indian Point 3 Operations will review the Indian Point 2 event investigation report, identify the lessons learned that should be applied to Indian Point 3 and implement those lessons learned. Special emphasis will be placed on controls in the high voltage switchyard.	30 days after the report is received
IPN-95-038-02	Instrumentation and Controls will investigate the failure to reset of 1995 Control Room Annunciator Panels SJF, SHF, SGF, and SFF for corrective actions.	August 15,
IPN-95-038-03	Instrumentation and Controls will issue a periodic testing and calibration procedure for the nine (9) controllers for the EDG ventilation system. The procedure will include a step to mark the position of locking screws after calibration.	April 1, 1995

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